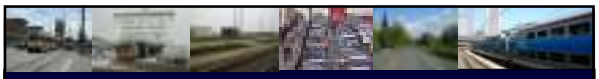


Outcome-Based Evaluation of Employment Transportation Services

Piyushimita Thakuriah (Vonu)

P.S. Sriraj, J. Persky, S. Soot & L. Tang

University of Illinois at Chicago

Presentation made in

Chicago Metropolitan Agency for Planning

November 14, 2008

1

Introduction

- Employment transportation systems funded by DOT's Job Access and Reverse Commute (JARC) program – services targeted to low-income workers to access job locations and employment-supportive destinations
- First study
  - Economic benefits study – will report on this today
  - Partnership study
- Ongoing study:
  - Study of JARC and New Freedom – data to be collected between now and end of Spring 2009
  - Human Services Transportation Plan

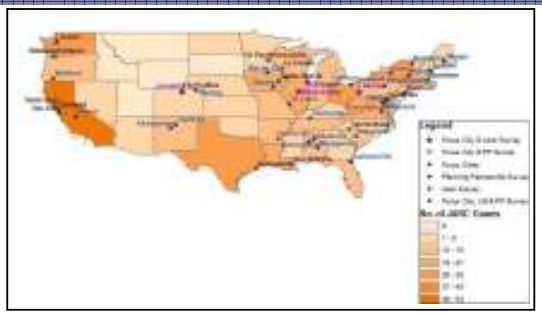
2

Studies of Employment Transportation

- Employment transportation systems funded by DOT's Job Access and Reverse Commute (JARC) program – services targeted to low-income workers to access job locations and employment-supportive destinations.
- Economic Benefits Study: Travel behavior and labor market outcomes experienced by employment service users with the goal of estimating the economic benefits of the services; reported in *Economic Benefits of Employment Transportation Services*.
- Partnership and Coordination Study: Partnerships and coordination activities for employment transportation services; reported in *Partnerships for the Job Access and Reverse Commute Program: A Multi-Site Study of the Institutional and Coordination Processes Behind Employment Transportation for Low-Income Workers.*

3

Data Collection Sites for Economic Benefits and Partnership Studies



4

Scope of Economic Benefits Study

- Who are the users of JARC-funded transit services, nationally?
- What are the travel behavior and labor market outcomes of these users?
- In terms of cost-effectiveness, how does JARC compare to other human services, workforce development and job creation programs?
- What are the economic benefits of the program to users, non-users and society?

5

Primary Data Sources

- JARC User Survey: An on-board survey of riders administered in the summer and fall of 2002 in 23 locations; questions on their socio-demographics, use of the service, information on the riders' prior and current travel patterns; prior and current employment and earnings information;
- Interviews of program managers and vehicle operators: Regarding the service and partnership aspects (during the same survey period);
- Cost and Operations Survey: Survey of financial questions relating to the service (e.g., total annual operating cost, FTA share and match source), operational characteristics (e.g., total annual ridership, route miles, route trip travel time for the routes, and hours of service).

6

Additional (Secondary) Data Sources Data Sources

Cost-Effectiveness Analysis

Census 2000 PUMS data on the 23 locations
Census Transportation Planning Package 2000
National Transit Database 2002
FTA JARC Quarterly Reporting Database 2002

Cost-Benefit Analysis

Consumer Expenditure Survey (CEX) 2002
National Longitudinal Survey of Youth (NLSY)
FTA JARC Quarterly Reporting Database 2002
Census 2000 PUMS data on the 23 locations
Census Transportation Planning Package
Panel Study of Income Dynamics
Site-specific public assistance, unemployment benefit and other data

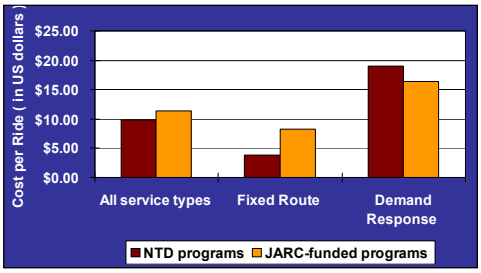
7

Novelty of Study Approach

- Physical capital versus human capital valuation of return on investments – method here is a hybrid
- Valuation of lifecycle or longitudinal benefits to users from program investments
- Multi-site evaluation issue, strong site-to-site variations in outcomes – implications on generalizability of results
- Modification of traditional definition of benefits in transportation projects as changes to consumer surplus resulting from time savings
- "Correct" accounting of "opportunity costs"
- Inclusion of benefits or costs to non-users with standing

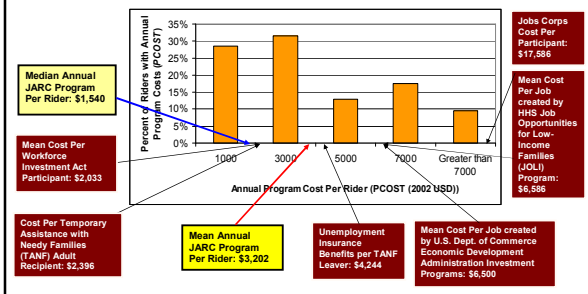
8

Cost Per Ride Overall



9

Annual Program Cost Comparisons



Median Annual JARC Program Per Rider: $1,540

Mean Cost Per Workforce Investment Act Participant: $2,033

Cost Per Temporary Assistance with Needy Families (TANF) Adult Recipient: $2,396

Mean Annual JARC Program Per Rider: $3,202

Unemployment Insurance Benefits per TANF Leaver: $4,244

Mean Cost Per Job created by U.S. Dept. of Commerce Economic Development Administration Investment Programs: $6,500

Mean Cost Per Job created by HHS Job Opportunities for Low-Income Families (JOLI) Program: $6,596

Jobs Corps Cost Per Participant: $17,586

10

Benefit Measures and Cost Benefit Analysis

- Base Year Incremental Net Benefit: - for users, non-users and society
- Potential User Worklife Benefit Index – forecasts of lifecycle economic benefits to users using dynamic microsimulation model

11

User Subgroups

Subgroup	Users
1	New worker in the labor force
2	Existing workers in new job locations
3	Existing workers in same job locations
4	Non-workers in school or training
5	Non-workers looking for jobs
6	Discretionary riders

"Before" and "after" design: $\Delta NUB_t = (\sum_{i=1}^{I} UB_{t,i} - \sum_{i=1}^{I} UB_{t-\delta,i}) - (\sum_{i=1}^{I} UC_{t,i} - \sum_{i=1}^{I} UC_{t-\delta,j})$

- Link each user to "statistically similar" user(s) in Current Population Survey March Work Supplement 2002 & local data on income tax rates, fringe benefits, EITC, sales tax, gas tax, transit service fares etc
- Quantify opportunity costs of "leisure time" and monetized value of generalized cost of travel

12

Who are the Non-Users?

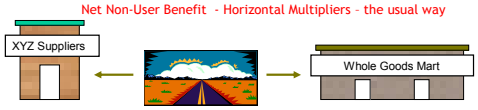
Sub-group	Non-users	Types of Impacts
1	General Public	Tax revenues generated, transfer payments for alternative uses, subsidy to program
2	Regional Public	Societal costs of private transportation averted with trips diverted to employment transportation costs
3	Local Labor Markets	Deflation of wages, vertical movements of current workers, displacement of current workers and other effects due to job chain perturbations generated by introduction of new labor

- Using local data wherever possible:
  - Quantify public assistance payment, unemployment benefits averted, taxes generated and subsidy to program
  - External costs of private automobile driving (if applicable)
  - Local labor market impacts using job chain approach

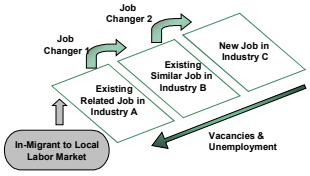
13

Multipliers

Net Non-User Benefit - Horizontal Multipliers – the usual way

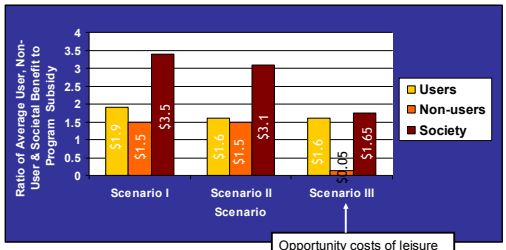


Net Non-User Benefit - Job Chain and Vertical Multipliers



14

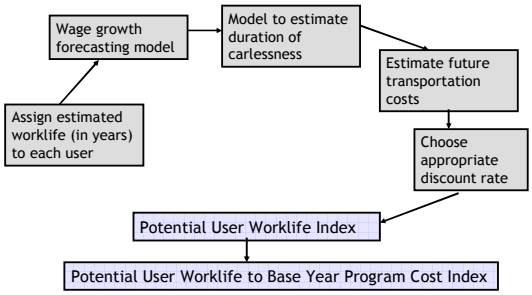
Incremental Net Benefit to Program Cost



Opportunity costs of leisure time foregone and labor market impacts included

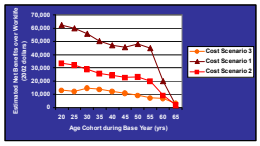
15

Components of Dynamic Microsimulation Model

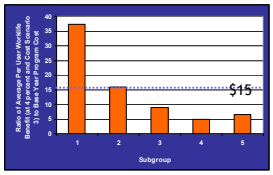


16

Potential User Worklife Index Forecasts



Average lifecycle economic return on investment to base year investment is $15 (2002 dollars)



Cost scenario 3: users are modeled to "leave" the transit system based on probabilities predicted from the National Longitudinal Survey of Youth and acquire cars; costs of car ownership are aged over time based on car ownership cost forecasting model

17

Overarching Lessons

The most sustainable policies relating to employment transportation for disadvantaged individuals are likely to be those:

That build upon broader transportation, social services and tax policies

Have a multi-modal emphasis that enhance demand management polices

Leverages local land-use, affordable housing and economic development strategies.

18

Recommendations

- Scope of programs limited – needs to be expanded – set-aside from major highway and transit programs?
- Special focus on services for disadvantaged populations should continue but combine programs (with those for persons with disabilities, seniors) and increase coordination efforts
- Lifecycle transportation and mobility credit system
- Employer-involvement should increase
- Need federal focus on accessibility needs of children and young adults towards long-term employment outcomes
- Performance measures – need longitudinal measures
- Information networks should be improved